<u>AMENDMENTS TO THE SPECIFICATION</u>:

Please delete the heading, as follows, that was added on page 1, above line 14 in the Preliminary Amendment filed with the nationalized application on August 21, 2006:

~~SUMMARY OF THE INVENTION~~

Please amend the paragraph beginning on page 3, line 18, as follows:

A method is known from ~~DE 6 326 281 C2~~ <u>DE 3 626 281 C2</u>, in which the heat quantity is ascertained by a heat generator being used which has a high degree of efficiency. An observation period is divided into individual measuring periods, and the setpoint number of operating hours of the high-efficiency heat generator is related to the measuring period as a function of the outside temperature. The heat quantity transferred to the heated object within the observation period by the heat generator being used is then calculated from the nominal power thereof, taking into account the boiler efficiency and standby losses, as well as from the actual number of operating hours. The nominal power, in turn, is determined for a heat generator adjusted to the heat demand, using the quotient of the actual number of operating hours and setpoint number of operating hours. Although this method does not require such intensive intervention into the heating system as does the aforementioned DE 3 730 529 A1, numerous assumptions are nevertheless made which relate only to one average case, so that the ascertained heat demand may again deviate substantially from the actual heat demand. For example, only the boiler efficiency, which is ascertained once by the manufacturer, is used as a basis.

Please amend the paragraph beginning on page 4, line 1, as follows:

A method is known from ~~DE 162 581.9~~ DE 100 62 581, in which the outside temperature and a variable which is characteristic for an energy output of the heat source to the heating system are measured as a function of time, and the nominal heat demand is calculated from the measured values. However, the calculation of the energy output of the heat source is also based on different assumptions which distort an accurate determination of the actual energy output.

Please insert the following heading on page 4, above line 14:

SUMMARY OF THE INVENTION

Please amend the paragraph beginning on page 10, line 5, as follows:

The average inside temperature of the building may either be set to a specific value (for example 20°C) or measured and averaged. If the outside temperature enters the range of the inside temperature, little or no heating power is needed, and a reasonable measurement of the connected heating load is therefore not possible ($T_{\text{outside, measurement limit}}$, see Figure 2).

Please amend the paragraph beginning on page 14, line 30, as follows:

In the case of the system according to Figure 1, a heating system 2 including a boiler 3 (having a burner which is not illustrated in greater detail) is accommodated in a building 1 for the purpose of heating building 1, the heating system being fired by fossil fuel 6 such as oil or gas, or by renewable fuels such as pellets. Fuel power [[$P_{\text{F, actual}}$]] $P_{\text{Br, actual}}$ contained in fuel 6 is converted to a useful power [[$P_{\text{useful, actual}}$]] $P_{\text{heating, actual}}$, the heating system having an efficiency η_K, so that useful power [[$P_{\text{useful, actual}}$]] $P_{\text{heating, actual}}$ generated by the heating system is equal to the product of efficiency η_K and fuel power [[$P_{\text{F, actual}}$]] $P_{\text{Br, actual}}$. In addition, power loss $P_{\text{loss, actual}}$ is withdrawn from building 1, for example due to transmission and ventilation losses, etc., although the building also receives an additional internal and/or external power gain $P_{\text{gain, actual}}$, for example due to solar radiation, electrical consumers in the building, etc.

Please insert the following paragraph beginning on page 18, above line 19:

Figure 3 shows an example of a method sequence 100 according to the system described herein. The method sequence 100 includes a step 101 that includes the measuring of waste gas concentration parameters, waste gas temperature, outside temperature, combustion air temperature, flow and return flow temperature of the heating circuits and, if applicable, inside temperature, and determination of the fuel power over time in each case within a certain observation period. After the step 101, processing proceeds to a step 102 that includes ascertaining the efficiency of the heating system over time from the previously measured variables over time within the observation period. After the step 102, processing proceeds to a step 103 that includes ascertaining the average outside temperature within the observation period. After the step 103, processing proceeds to a step 104 that includes ascertaining an average heating performance produced at the average outside temperature from the fuel power over time and the efficiency of the heating system over time within the observation period. After the step 104, processing proceeds to a step 105 that includes ascertaining a maximum heating performance to be produced at a minimum outside temperature from the average heating performance, a minimum outside temperature, the heating limit temperature, or average inside temperature, and the average outside temperature within the observation period. After the step 105, processing proceeds to a step 106 that includes ascertaining the connected heating load of the building from the maximum heating performance and observation duration. After the step 106, processing proceeds to a step 107 that includes ascertaining the burner power to be set from the connected heating load and the efficiency, or heat generation losses in the quasistationary state. After the step 107, processing proceeds to a step 108 that includes an output of results.

Please amend the paragraph beginning on page 22, line 8, as follows:

In the case of high precision measurement tasks, the use of additional flow sensors 15 (see Figure 1) may be expedient which, in combination with existing sensors for flow and return flow temperatures, enable partial losses or correction values, i.e., of process water consumption quantities to be calculated during measured value acquisition. Flow sensors in the fuel supply system may also be used to ascertain fuel power values over time which are incorporated into the calculation process. For the purpose of synchronous and discrete automatic data acquisition, sensors are used to measure the following values at sampling times, for example at 10-second intervals over a 24-hour observation period:

Waste gas temperature	$T_{waste\ gas}$
O_2 (or CO_2) concentration	O_{2meas}
CO concentration (optional)	CO_{meas}
Combustion air temperature	T_{air}
Outside temperature	$T_{outside,\ actual}$
Inside temperature	T_{inside}

Please amend the paragraph beginning on page 25, line 30, as follows:

According to the first German Federal Emission ~~Control Ordinance~~ Protection Decree (1. BImSchV), q_{wg} may be calculated according to the following approximation, where T_{wg} represents the waste gas temperature, T_{air} the combustion air temperature, $O_{2,\ meas}$ the oxygen concentration and $CoeffA_2$, CoeffB the coefficients dependent on the fuel used and taken from corresponding tables.